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Research article

Previous maltreatment and present mental health in a high-risk adolescent population☆

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ABSTRACT

Childhood maltreatment is known to increase the risk of future psychiatric disorders. In the present study, we explored the impact of experienced maltreatment on the prevalence and comorbidity of psychiatric disorders in a high-risk population of adolescents in residential care units. We also studied the impact of poly-victimization. The participants of the study were adolescents in residential care units in Norway ($n = 335$, mean age 16.8 years, girls 58.5%). A diagnostic interview (Child and Adolescent Psychiatric Assessment Interview) was used, yielding information about previous maltreatment (witnessing violence, victim of family violence, community violence, sexual abuse) and DSM-IV diagnoses present in the last three months. Exposure to maltreatment was reported by 71%, and in this group, we found significantly more Asperger's syndrome (AS) ($p = .041$), conduct disorder (CD) ($p = .049$), major depressive disorder (MDD) ($p = .001$), dysthymia ($p = .030$), general anxiety disorder (GAD) ($p < .001$), and having attempted suicide ($p = .006$). We found significantly more comorbid disorders in the maltreated group. Poly-victimization was studied by constructing a scale comprised of witnessing violence, victim of family violence, victim of sexual abuse and household dysfunction. We found that poly-victimization was associated with significantly increased risk of MDD, GAD, AS, CD, and having attempted suicide ($p < .01$). The complexity of the clinical outcomes revealed in this study suggest that longer-term treatment plans and follow-up by psychiatric services might be needed to a greater extend than for the rest of the child and adolescent population, and that trauma informed care is essential for adolescents in residential youth care.

A substantial amount of international research in recent decades has established that childhood adversities are important risk factors for the development of mental health problems. Several studies have shown that childhood physical abuse, sexual abuse, and witnessing family or community violence are factors that may lead to impaired mental health in adolescence (Gover, 2004; Helweg-Larsen, Frederiksen, & Larsen, 2011; Kaplan et al., 1998; McLaughlin et al., 2012; Mills et al., 2013), as well as later in life (Afifi et al., 2014; Cater, Andershed, & Andershed, 2014; Chapman et al., 2004; Felitti et al., 1998; Franzese,

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Covey, Tucker, McCoy, & Menard, 2014; Norman et al., 2012). Studies of childhood abuse in the Norwegian general population have reported a prevalence of physical abuse of 5–6% (both sexes) and of sexual abuse of 10–14% (girls) and 3–4% (boys) (Sorbo, Grimstad, Bjorngaard, Schei, & Lukasse, 2013; Thoresen, Myhre, Wentzel-Larsen, Aakvaag, & Hjemdal, 2015). These rates are similar to the prevalence of child sexual abuse in European countries, which was estimated by Stoltenborgh et al. in their meta-analysis (14% of girls and 6% of boys) (Stoltenborgh, van Ijzendoorn, Euser, & Bakermans-Kranenburg, 2011) but are lower than those found in the Adverse Childhood Experiences (ACE) study in the United States, where the prevalence of childhood physical abuse was reported to be 27% (girls) and 30% (boys), and the prevalence of child sexual abuse was reported to be 25% (girls) and 16% (boys) (Prevalence of Individual Adverse Childhood Experiences, 2014). The childhood prevalence of witnessing intimate partner violence in high-income countries has been estimated to be 8–25% (Gilbert et al., 2009). A study of a Norwegian clinical population of 12- to 18-year-olds in a child and adolescent psychiatric outpatient setting reported a prevalence of 34% for physical abuse, 29% for sexual abuse and 28% for neglect (Reigstad, Jorgensen, & Wichstrom, 2006). In the present study, the term "maltreatment" will include sexual abuse, physical abuse and witnessing physical violence.

Anxiety, depression, post-traumatic stress disorder (PTSD), eating disorders, sleep disorders, suicide attempts, substance abuse and behavioral disorders are among the psychiatric problems associated with childhood maltreatment in previous studies (Afifi et al., 2014; Chen et al., 2010; Fry, McCoy, & Swales, 2012; Kaplan et al., 1998; Norman et al., 2012; Widom, DuMont, & Czaja, 2007). There has also been a growing amount of literature showing that poly-victimization (exposure to more than one type of adversity) increases the risk of several psychiatric disorders and symptoms, such as anxiety, depression, PTSD and ideation of suicide and self-harm (Afifi et al., 2014; Cater et al., 2014; Chan, 2013; Finkelhor, Ormrod, & Turner, 2007; Ford, Grasso, Hawke, & Chapman, 2013). In the ACE study, four categories of household dysfunction were included (household substance abuse, criminal behavior, mental illness and mother/stepmother being battered) in addition to child abuse, and these sources of dysfunction were reported to contribute to an increased risk of mental and physical health problems (Felitti et al., 1998). In the present study, we chose to investigate witnessing violence as a separate type of childhood maltreatment, but we also wanted to include measures of household dysfunction to study the impact of poly-victimization in this population. The term "household dysfunction" will hereafter represent parental psychopathology, criminality and alcohol or substance abuse.

Children and adolescents in out-of-home care are at an increased risk of emotional, behavioral, and psychosocial problems compared with general child and youth populations (Ford, Vostanis, Meltzer, & Goodman, 2007; McMillen et al., 2005). The published prevalence of psychiatric disorders in different countries has varied substantially in the last decades due to the use of different diagnostic criteria, methods and assessment tools (Roberts, Attkisson, & Rosenblatt, 1998). Therefore, direct comparisons of the results can be challenging. In their study of 17-year-olds in the Missouri foster care system, McMillen et al. found that 47% of 169 youths living in congregate care met the criteria for at least one psychiatric disorder during the year prior to the study. Ford et al. reported that 71% of children and adolescents (5- to 17-year-olds) in residential settings met the criteria of a psychiatric disorder (Ford et al., 2007). The prevalence of psychiatric diagnoses in the general adolescent population in Norway has not been fully studied, but one study reported a prevalence of major depressive disorder (MDD) of 2.6% and dysthymia of 1.0% among junior high school students in Norway (Sund, Larsson, & Wichstrom, 2011). This prevalence is lower than the reported prevalence of depression of 6.7% among adolescents (12- to 17-year-olds) in the United States (Perou et al., 2013) but comparable with the prevalence of depression among 13- to 15-year-olds in Great Britain (2.5%) (Ford, Goodman, & Meltzer, 2003). Other studies have reported a total prevalence of any DSM-IV diagnosis in the general child population of Norway of 6.1% (8- to 10-year-olds) (Heiervang et al., 2007) and 50.9% among Norwegian children in foster care (6- to 12-year-olds) (Lehmann, Havik, Havik, & Heiervang, 2013). In the last study, they also found that age at first placement, the number of placements, violence exposure, and serious neglect were risk factors for psychiatric disorders (Lehmann et al., 2013). Several studies have shown that the prevalence of psychiatric disorders increases with age during childhood and adolescence (Ford et al., 2003); therefore, we would expect to find a higher prevalence of disorders among youth aged 12–20 years both in the general population and among youth in the child welfare system.

Some of the major reasons for placement in out-of-home care are unsatisfactory conditions in the home and child maltreatment (StatisticsNorway, 2011). In Norway, foster home placement would normally be the first choice when out-of-home care is needed. Adolescents in residential youth care are likely to have experienced a higher number of out-of-home placements and to have a higher prevalence of mental disorders than children in other areas of child welfare services (Ford et al., 2007). Therefore, they can be considered a population at high risk of mental disorders. Because Norwegian residential care units are custodial facilities, children and adolescents in need of therapy or treatment for psychiatric problems must be referred to child and adolescent psychiatry facilities to receive either in-patient or out-patient services.

Structured psychiatric interviews are considered to be the most reliable method to estimate the prevalence of psychiatric diagnoses in a study population, yet the majority of previous studies are based on self-report questionnaires (Edwards, Holden, Felitti, & Anda, 2003; Felitti et al., 1998; Helweg-Larsen et al., 2011; Peltonen, Ellonen, Larsen, & Helweg-Larsen, 2010) and conducted on general adult (Afifi et al., 2014; Cater et al., 2014; Felitti et al., 1998; Green et al., 2010) or adolescent (McLaughlin et al., 2012) populations.

Previous research focusing on the impact of childhood adversities in a high-risk adolescent population has been studied in different settings. Leenarts et al. found a direct relationship between exposure to early-onset interpersonal trauma and mental health problems in girls in Dutch residential care facilities (Leenarts et al., 2013). Boxer and Terranova found that even among adolescents in a psychiatric hospital ward, maltreatment experiences accounted for variations in levels of